

Preface

The Misunderstood Options

Options trading may have vastly different appearances, depending on the observer. The speculator treats options as efficient forms of leverage, and the conservative portfolio manager or equity investor seeks hedging through options to manage, reduce, or eliminate risk.

This book presents a range of information about specific groupings of strategies, all quantified mathematically in terms of profit, breakeven, or loss. The concept here is that even the most sophisticated and experienced options trader is likely to benefit from awareness of these all-important benchmarks for every trade. In setting price or profit goals for exit, these calculations are especially useful. Every trader is able to set goals for taking profits or accepting losses. That is the easy party. Actually taking action when those levels are reached is far more difficult.

Beyond the highly detailed chapters illustrating the appearance of profit and loss for many types of trades and applying these formulas, the book contains many additional chapters of interest. Among the observations in the book is a questioning of implied volatility as a useful tool. As a measurement of probability for favorable outcomes, historical volatility may offer an equal or better yardstick for identifying risk and opportunity. This is a topic of passionate debate, and both sides—those who believe in implied volatility and those who reject it—have their rationale.

Another observation in the book questions the methods used in the market for calculating probability. In Chap. 1, the comparison between

two separate methods is traced back to a chronic gambler in 17th-century France, the Chevalier de Mere. He realized that his carefully constructed probability of favorable outcomes was not being matched in actual play. He consulted with his friend, the famous Blaise Pascal who, in turn, consulted with Pierre de Fermat, a gifted mathematician. These two discovered that probability of getting a favorable outcome was *not* accurate. The more reliable system was to first calculate the probability of not getting the favorable outcome, and then subtracting the result from one.

This paradox—the difference between additive and multiplicative probability—is profound and has importance in modern options trading. So many examples of what is broadly lumped in together under the umbrella of “probability” involve the less reliable additive method of calculation. With this in mind, probability itself has to be studied by options traders not as a system of guarantees, but more as a system for better understanding the potential within a range of expected outcomes.

Just as de Mere was a chronic gambler in his day, many options traders are equally attracted to the law of averages. But many are further puzzled because outcomes do not always conform to expectations. Albert Einstein cautioned that in his opinion, God does not play dice. This is not a rejection of *risk* by any means, but an observation that probability involves only estimates of possible outcomes. This often is misunderstood by traders who find comfort in applying an online calculator and discovering that the odds of a particular options ending up in the money are 80%. But how is that probability calculated? The online source does not reveal its methods nor its assumptions, so traders are expected to grant significant trust in a source that does not disclose any details.

These examples of topics and their treatment within this book are only part of a broader set of assumptions concerning what may be termed *practical* mathematical application. This means that formulations involving a lot of theory and the exponential uncertainties of multiple variables are not used to set a basis for the premise underlying the book: Traders want to know the levels of profit, breakeven, and loss, and they want to be able to quantify risk. It is that simple.

On a theoretical level, much has been written about the wonders of pricing models, especially the best-known among these, the Black-Scholes pricing model. This book attempts to base a system on historical volatility, technical analysis, and fundamental analysis as the means for selecting underlying securities and their options. But why reject Black-Scholes? Actually, there are numerous reasons. Fischer Black himself wrote several years after publication of the original formula that the assumptions used by

himself and Myron Scholes were, in fact, deeply flawed. He identified *nine* specific flaws and incorrect assumptions, each of which distorts the pricing model. A single flawed assumption is concerning enough, but may be accepted as part of an analytical process. However, nine flaws are exponentially more serious and bring into question the entire process of developing a pricing model. This led to an equally important question: Why do options traders need a pricing model at all?

There are no pricing models for other forms of investing or trading. A trader, speculator, or investor focusing on stocks, for example, relies on the market and its forces of supply and demand to set prices as a floating and ever-changing aspect of that auction market, and it works quite well. The market, with its informational efficiency at play, sets up a universe in which astute traders recognize when securities are overpriced or underpriced, all without a pricing model or formulation of what the price per share *should* be.

Since options are derivatives of their underlying securities, the pricing of an options contract is directly derived from movement in the underlying price, which varies and changes based on both price movement and historical volatility. The conclusion: A pricing model is a comfortable concept in theory, as Fischer Black himself observed as a certainty that could provide comfort to traders. However, Black also said, the assumptions that go into this desire for perfection rarely can be applied so that the pricing model works.

With these controversial realizations and the natural conflict between a comforting theory and a stark reality, it becomes clear that no one's answer addresses all of the questions or satisfies all of the beliefs within the options universe. By presenting alternatives, individuals on both sides may enter into a debate and may even learn from one another. Unfortunately, disagreement too often leads to shutting out of the opportunity to expand knowledge. It may only be hoped that the information in this book, especially surrounding these controversial topics, will lead to an advanced appreciation of a complex topic, whether through confirmation of what is believed today, or by discovery of alternative possibilities. That process—learning how to view a problem from a different point of view—is how everyone learns.

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